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Joint Polar Satellite System (JPSS)
Algorithm Specification Volume I:
Software Requirement Specification (SRS)
for the OMPS Nadir Profile RDR/SDR



Goddard Space Flight Center
Greenbelt, Maryland

National Aeronautics and
Space Administration

**Joint Polar Satellite System (JPSS) Algorithm Specification
Volume I: Software Requirement Specification (SRS) for the
OMPS Nadir Profile RDR/SDR
JPSS Review/Approval Page**

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**Goddard Space Flight Center
Greenbelt, Maryland**

Preface

This document is under JPSS Ground Project configuration control. Once this document is approved, JPSS approved changes are handled in accordance with Class I and Class II change control requirements as described in the JPSS Configuration Management Procedures, and changes to this document shall be made by complete revision.

Any questions should be addressed to:

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Change History Log

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approve Date)
Rev-	August 22, 2013	This version incorporates 474-CCR-13-1124 which was approved by JPSS Ground ERB on the effective date shown.
A	Jan 9, 2014	This version incorporates 474-CCR-13-1350 which was approved by JPSS Ground ERB on the effective date shown.
A1	Oct 23, 2014	This version incorporates 474-CCR-14-2091 which was approved by the JPSS Ground ERB for CO10 on the effective date shown.
B	Oct 23, 2014	This version incorporates 474-CCR-14-1721, 474-CCR-14-1741, 474-CCR-14-1781, 474-CCR-14-2110 and 474-CCR-14-2073 which was approved by JPSS Ground ERB on the effective date shown.
C	Mar 29, 2016	This version incorporates 474-CCR-15-2452, 474-CCR-15-2480, 474-CCR-15-2657, and 474-CCR-16-2818 which was approved by JPSS Ground ERB on the effective date shown.

List of TBx Items

TBx	Type	ID	Text	Action
None				

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1 Introduction

The Joint Polar Satellite System (JPSS) is the National Oceanic and Atmospheric Administration's (NOAA) next-generation operational Earth observation program that acquires and distributes global environmental data primarily from multiple polar-orbiting satellites. The program plays a critical role in NOAA's mission to understand and predict changes in weather, climate, oceans and coasts, and the space environment, which support the Nation's economy and protect lives and property. The first JPSS satellite mission, the Suomi National Polar-orbiting Partnership (S-NPP) satellite, successfully launched in October 2011. S-NPP, along with the legacy NOAA Polar Operational Environmental Satellites (POES), provides continuous environmental observations. Two JPSS satellites will follow S-NPP: JPSS-1, planned for launch in fiscal year (FY) 2017, with JPSS-2 to follow in FY2022.

In addition to the JPSS Program's own satellites operating in the 1330 (± 10) Local Time of the Ascending Node (LTAN) orbit, NOAA also leverages mission partner assets for complete global coverage. These partner assets include the Department of Defense (DoD) Defense Meteorological Satellite Program (DMSP) operational weather satellites (in the 1730 - 1930 LTAN orbit), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) Meteorological Operational (Metop) satellites (in the 2130 LTAN orbit) and the Japanese Aerospace Exploration Agency (JAXA) Global Change Observation Mission-Water (GCOM-W) satellite (in the 1330 LTAN orbit). JPSS routes Metop data from McMurdo Station, Antarctica to the EUMETSAT facility in Darmstadt, Germany and EUMETSAT, in turn, provides Metop data to NOAA. For GCOM, JPSS routes the GCOM-W data from Svalbard, Norway through the NOAA Satellite Operations Facility (NSOF) in Suitland, MD, processes GCOM-W data and delivers GCOM-W products to the JPSS users who have JAXA permissions.

Additionally, the JPSS Program provides data acquisition and routing support to the DMSP and the WindSat Coriolis Program. JPSS routes DMSP data from McMurdo Station to the 557th Weather Wing at Offutt Air Force Base in Omaha, NE. After processing, the 557th releases the DMSP data for public consumption over the Internet via the National Geophysical Data Center in Boulder, CO. The JPSS Program provides data routing support to the National Science Foundation (NSF), as well as the National Aeronautics and Space Administration (NASA) Space Communications and Navigation (SCaN)-supported missions, which include the Earth Observing System (EOS). As part of the agreements for the use of McMurdo Station, JPSS provides communications/network services for the NSF between McMurdo Station, Antarctica and Centennial, Colorado.

As a multi-mission ground infrastructure, the JPSS Ground System supports the heterogeneous constellation of the before-mentioned polar-orbiting satellites both within and outside the JPSS Program through a comprehensive set of services as listed in Table 1-1.

Table: 1-1 JPSS Ground System Services

Service	Description
Enterprise Management and Ground Operations	Provides mission management, mission operations, ground operations, contingency management and system sustainment
Flight Operations	Provides launch support and early orbit operations, telemetry and commanding, orbital operations, mission data playback, payload support, flight software upgrade, flight vehicle simulation, and disposal at the end of mission life
Data Acquisition	Provides space/ground communications for acquiring mission data
Data Routing	Provides routing of telemetry, mission and/or operations data through JPSS' global data network
Data Product Generation	Provides the processing of mission data to generate and distribute raw, sensor, environmental, and ancillary data products
Data Product Calibration and Validation	Provides calibration and validation of the data products
Field Terminal Support	Provides development and operational support to the Field Terminal customers

1.1 Identification

This SRS provides requirements for OMPS (Ozone Mapping and Profiler Suite) Nadir Profile (NP) Raw Data Records (RDRs) and Sensor Data Records (SDRs). OMPS measures stratospheric ozone through the measurement of backscattered ultraviolet (UV) light. OMPS Nadir (OMPS-N) system consists of two instruments, a Nadir Total Column Mapper (NM) and a Nadir Profiler (NP). The Nadir Profiler sensor has a focal plane UV grating spectrometer that provides measurements between 250 to 310 nm (252-306 for S-NPP) nm, with a spectral resolution of 1 nm.

1.2 Algorithm Overview

The Nadir Profile (NP) ozone SDR is generated from the RDR for the nadir profile focal plane of the OMPS instrument. The SDR has a spatial resolution of 250 km. The SDR processing produces an earth-scene SDR and a calibration SDR from the backscatter of solar radiation. The nadir profile earth scene SDR provides raw counts, count corrections, and calibrated earth and sun radiances for subsequent EDR processing into a measurement of ozone profile. The calibration SDR is used for calibration maintenance purposes. The OMPS system will produce two JPSS EDRs, Ozone Total Column (TC) and Ozone Nadir Profile (NP).

The OMPS algorithms include the following:

1. The Nadir Total Column Ozone SDR algorithm
2. The Nadir Profile Ozone SDR algorithm
3. The Nadir Total Column Ozone Algorithm
4. The Nadir Profile Ozone Algorithm

1.3 Document Overview

Section	Description
Section 1	Introduction - Provides a brief overview of the JPSS Ground System and the relevant algorithm, as reference material only.
Section 2	Related Documentation - Lists related documents and identifies them as Parent, Applicable, or Information Documents such as, MOAs, MOUs, technical

Section	Description
	implementation agreements, as well as Data Format specifications. This section also establishes an order of precedence in the event of conflict between two or more documents.
Section 3	Algorithm Requirements - Provides a summary of the science requirements for the products covered by this volume.
Appendix A	Requirements Attributes - Provides the mapping of requirements to verification methodology and attributes.

2 Related Documentation

The latest JPSS documents can be obtained from URL:

https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm. JPSS Project documents have a document number starting with 470, 472 or 474 indicating the governing Configuration Control Board (CCB) (Program, Flight, or Ground) that has the control authority of the document.

2.1 Parent Documents

The following reference document(s) is (are) the Parent Document(s) from which this document has been derived. Any modification to a Parent Document will be reviewed to identify the impact upon this document. In the event of a conflict between a Parent Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Doc. No.	Document Title
470-00067	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD)
470-00067-02	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD) Volume 2 - Science Product Specification
474-00448-01-01	Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirements Specification (SRS) for the Common Algorithms

2.2 Applicable Documents

The following document(s) is (are) the Applicable Document(s) from which this document has been derived. Any modification to an Applicable Document will be reviewed to identify the impact upon this document. In the event of conflict between an Applicable Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Doc. No.	Document Title
D0001-M01-S01-005	Joint Polar Satellite System (JPSS) Algorithm Specification for OMPS Nadir Profile Ozone Algorithm Theoretical Basis Document (ATBD)
474-00448-02-05	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for OMPS Nadir Profile RDR/SDR
474-00448-04-05	Joint Polar Satellite System (JPSS) Algorithm Specification Volume IV: Software Requirements Specification Parameter File (SRSPF) for OMPS Nadir Profile RDR/SDR

2.3 Information Documents

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of this document.

Doc. No.	Document Title
474-00333	Joint Polar Satellite System (JPSS) Ground System (GS) Architecture Description Document (ADD)
474-00054	Joint Polar Satellite System (JPSS) Ground System (GS) Concept of Operations (ConOps)

Doc. No.	Document Title
470-00041	Joint Polar Satellite System (JPSS) Program Lexicon
474-00448-03-05	Joint Polar Satellite System (JPSS) Algorithm Specification Volume III: Operational Algorithm Description (OAD) for the OMPS Nadir Profile RDR/SDR
429-05-02-42	Joint Polar Satellite System (JPSS) Mission Data Format Control Book National Polar-Orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP) (MDFCB)
472-00251	Joint Polar Satellite System (JPSS) Mission Data Format Control Book for JPSS-1
472-00331	Joint Polar Satellite System-1 (JPSS-1) Ozone Mapping and Profiler Suite (OMPS) Mission Data Packet Structures

3 Algorithm Requirements

3.1 States and Modes

3.1.1 Normal Mode Performance

SRS.01.05_321 The OMPS Nadir Profile algorithm shall calculate the earth view radiance holding the out-of-band stray light to less than 1%.

Rationale: The limiting value of the out-of-band stray light was flowed down from Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.05_322 The OMPS Nadir Profile algorithm shall calculate the earth view radiance over the wavelength range of 252 to 306 nm.

Rationale: The wavelength range of the earth view radiance was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP

SRS.01.05_323 The OMPS Nadir Profile algorithm shall calculate the earth view radiance with a horizontal cell size of 250 km at nadir.

Rationale: The horizontal cell size at nadir was flowed down from Level 1 and Level 2 documents.

Mission Effectivity: S-NPP

SRS.01.05_328 The OMPS Nadir Profile algorithm shall calculate the earth view radiance with an albedo calibration accuracy of 2%.

Rationale: The accuracy values of the earth view radiance with an albedo calibration were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.05_329 The OMPS Nadir Profile algorithm shall calculate the earth view radiance with pixel-to-pixel calibration accuracy of 1% maximum.

Rationale: The accuracy values of the earth view radiance with pixel-to-pixel calibration were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.05_469 The OMPS Nadir Profile algorithm shall calculate the earth view radiance over the wavelength range of 250 to 310 nm.

Rationale: The wavelength range of the earth view radiance was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.05_470 The OMPS Nadir Profile algorithm shall calculate the earth view radiance with a horizontal cell size of 50 km at nadir.

Rationale: The horizontal cell size at nadir was flowed down from Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.05_471 The OMPS Nadir Profile SDR Geolocation algorithm computation shall have a one-sigma mapping uncertainty of no more than 25 km.

Rationale: From L1RD requirements for Ozone NP EDR.

Mission Effectivity: S-NPP, JPSS-1

3.1.2 Graceful Degradation Mode Performance

Not applicable.

3.2 Algorithm Functional Requirements

Not applicable.

3.2.1 Product Production Requirements

Not applicable.

3.2.2 Algorithm Science Requirements

SRS.01.05_92 The OMPS Nadir Profile Calibration SDR software shall incorporate a computing algorithm provided for NP Science calibration data.

Rationale: The Nadir Profile science calibration data is one of OMPS NP SDR products. The SDR software through its computing algorithm must produce the NP science calibration data in accordance with the JPSS Algorithm Specification for OMPS Nadir Profile Ozone ATBD (D0001-M01-S01-005).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_324 The OMPS Nadir Profile SDR software shall incorporate a computing algorithm provided for earth-view radiances.

Rationale: The Nadir Profile earth-view radiance data is one of OMPS NP SDR products. The SDR software through its computing algorithm must produce the NP earth view radiance data in accordance with the JPSS Algorithm Specification for OMPS Nadir Profile Ozone ATBD (D0001-M01-S01-005).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_325 The OMPS Nadir Profile SDR software shall incorporate a computing algorithm provided for auxiliary science and calibration parameters reported in the SDR.

Rationale: The Nadir Profile auxiliary science and calibration parameters are part of OMPS NP SDR products. The SDR software through its computing algorithm must produce the NP auxiliary science and calibration parameters.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.2.3 Algorithm Exception Handling

SRS.01.05_80 The OMPS Nadir Profile SDR software shall set the <FillField> values to <FieldValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Science_SDR><fill>.

Rationale: The SDR software through its computing algorithm must fill the OMPS NP SDR values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.3 External Interfaces

3.3.1 Inputs

SRS.01.05_74 The OMPS Nadir Profile SDR software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended OMPS NP Science SDR products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_95 The OMPS Nadir Profile Calibration SDR software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended OMPS NP Calibration SDR products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_114 The OMPS Nadir Profile SDR GEO software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended OMPS NP SDR Geolocation products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_472 The OMPS Nadir Profile SDR software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).

Rationale: This defines the formats for Lookup Tables, and Processing Coefficients for input into the algorithm module.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

Table 3-1 and Figure 3-1 are best viewed together since they describe the processes governed by this SRS in different ways. The figure diagrams the data flowing into, out of, and within the code governed by this SRS. The table lists these same data interactions as well as all downstream dependencies for outputs from this SRS.

Each row in the table describes a single software interaction - data flowing from one software item to another. The data is listed in the first column. The second and third columns include the short name and mnemonic for the data. Blanks indicate there is no mnemonic. The fourth and fifth columns contain the SRS that generates the data product(s) in the first column, and the SRS that receives those products. The final two columns contain the actual function name in Algorithm Development Library (ADL) that produces those products, and the function that inputs those products. The SRS's titled "Ingest MSD" and "Store/Retrieve" are non-existent SRS's functioning as data handling for the IDPS. The software functions "Store Products" and "Retrieve Products" are similar non-existent functions that operate as IDPS data handling. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE. See Appendix A for the requirements allocated to GRAVITE and Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for OMPS Nadir Profile RDR/SDR (474-00448-02-05) to find products allocated to GRAVITE.

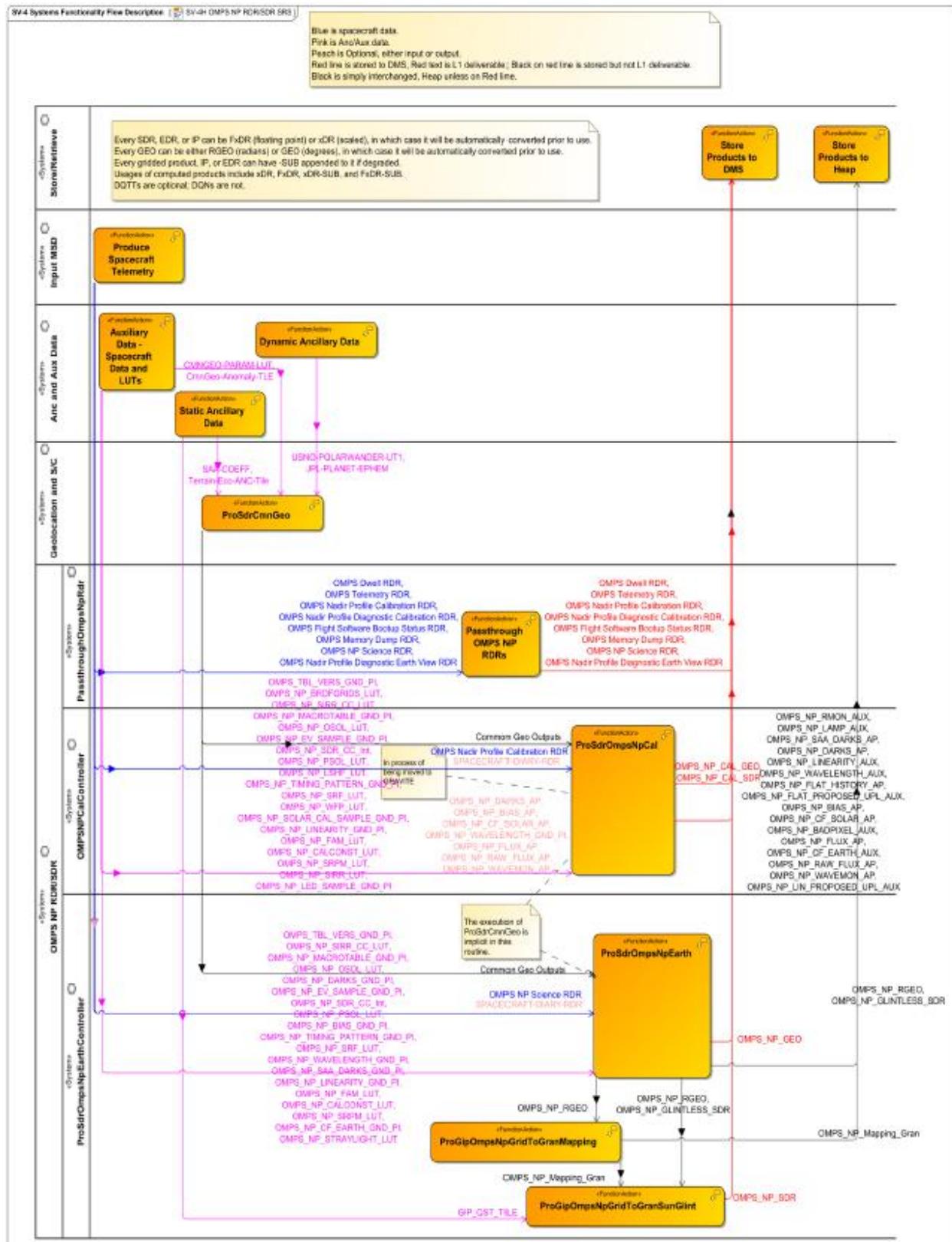


Figure: 3-1 OMPS NP RDR/SDR Data Flows

Table: 3-1 SV-6 Systems Resource Flow Matrix: OMPS NP RDR/SDR

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
1	<ul style="list-style-type: none"> •OMPS Dwell RDR •OMPS Telemetry RDR •OMPS Nadir Profile Calibration RDR •OMPS Nadir Profile Diagnostic Calibration RDR •OMPS Flight Software Bootup Status RDR •OMPS Memory Dump RDR •OMPS NP Science RDR •OMPS Nadir Profile Diagnostic Earth View RDR 	<ul style="list-style-type: none"> •OMPS-DWELL-RDR •OMPS-TELEMETRY-RDR •OMPS-NPCALIBRATION-RDR •OMPS-NPDIAGCAL-RDR •OMPS-FSWBU-RDR •OMPS-DUMP-RDR •OMPS-NPSCIENCE-RDR •OMPS-NPDIAGNOSTIC-RDR 	<ul style="list-style-type: none"> •RDRE-OMPS-C0036 •RDRE-OMPS-C0034 •RDRE-OMPS-C0037 •RDRE-OMPS-C0053 •RDRE-OMPS-C0057 •RDRE-OMPS-C0035 •RDRE-OMPS-C0030 •RDRE-OMPS-C0052 	Input MSD	OMPS NP RDR/SDR	Produce Spacecraft Telemetry	Passthrough OMPS NP RDRs
2	•SPACECRAFT-DIARY-RDR	•SPACECRAFT-DIARY-RDR	•RDRE-SCAE-C0030	Input MSD	OMPS NP RDR/SDR	Produce Spacecraft Telemetry	ProSdrOmpsNp Earth
3	•OMPS Nadir Profile Calibration RDR	•OMPS-NPCALIBRATION-RDR	•RDRE-OMPS-C0037	Input MSD	OMPS NP RDR/SDR	Produce Spacecraft Telemetry	ProSdrOmpsNp Cal
4	•OMPS NP Science RDR	•OMPS-NPSCIENCE-RDR	•RDRE-OMPS-C0030	Input MSD	OMPS NP RDR/SDR	Produce Spacecraft Telemetry	ProSdrOmpsNp Earth
5	•SPACECRAFT-DIARY-RDR	•SPACECRAFT-DIARY-RDR	•RDRE-SCAE-C0030	Input MSD	OMPS NP RDR/SDR	Produce Spacecraft Telemetry	ProSdrOmpsNp Cal
6	<ul style="list-style-type: none"> •OMPS_TBL_VERS_GND_PI •OMPS_NP_BRDFGRI_DS_LUT •OMPS_NP_SIRR_CC_LUT 	<ul style="list-style-type: none"> •OMPS-TBL-VERS-GND-PI •OMPS-NP-BRDFGRIDS-LUT •OMPS-NP-SIRR-CC-LUT 	<ul style="list-style-type: none"> •NP_NU-LM0240-130 •NP_NU-LM0240-116 •NP_NU-LM0240-115 	Anc and Aux Data	OMPS NP RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrOmpsNp Cal

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	<ul style="list-style-type: none"> •OMPS_NP_MACROT_ABLE_GND_PI •OMPS_NP_OSOL_LUT •OMPS_NP_EV_SAMPLE_GND_PI •OMPS_NP_SDR_CC_Intent •OMPS_NP_PSOL_LUT •OMPS_NP_LSHF_LUT •OMPS_NP_TIMING_PATTERNS_GND_PI •OMPS_NP_SRF_LUT •OMPS_NP_WFP_LUT •OMPS_NP_SOLAR_CAL_SAMPLE_GND_PI •OMPS_NP_LINEARITY_GND_PI •OMPS_NP_FAM_LUT •OMPS_NP_CALCONS_T_LUT •OMPS_NP_SRPM_LUT •OMPS_NP_SIRR_LUT •OMPS_NP_LED_SAMPLE_GND_PI 	<ul style="list-style-type: none"> •OMPS-NP-MACROTABLE-GND-PI •OMPS-NP-OSOL-LUT •OMPS-NP-EV-SAMPLE-GND-PI •OMPS-NP-SDR-CC •OMPS-NP-PSOL-LUT •OMPS-NP-LSHF-LUT •OMPS-NP-TIMING-PATTERN-GND-PI •OMPS-NP-SRF-LUT •OMPS-NP-WFP-LUT •OMPS-NP-SOLAR-CAL-SAMPLE-GND-PI •OMPS-NP-LINEARITY-GND-PI •OMPS-NP-FAM-LUT •OMPS-NP-CALCONST-LUT •OMPS-NP-SRPM-LUT •OMPS-NP-SIRR-LUT •OMPS-NP-LED-SAMPLE-GND-PI 	<ul style="list-style-type: none"> •NP_NU-LM0240-122 •NP_NU-LM0240-110 •NP_NU-LM0240-121 •DP_NU-LM2020-004 •NP_NU-LM0240-111 •NP_NU-LM0240-117 •NP_NU-LM0240-119 •NP_NU-LM0240-113 •NP_NU-LM0240-114 •NP_NU-LM0240-124 •NP_NU-LM0240-120 •NP_NU-LM0240-109 •NP_NU-LM0240-108 •NP_NU-LM0240-118 •NP_NU-LM0240-112 •NP_NU-LM0240-123 				
7	<ul style="list-style-type: none"> •OMPS_TBL_VERS_GND_PI •OMPS_NP_SIRR_CC_LUT 	<ul style="list-style-type: none"> •OMPS-TBL-VERS-GND-PI •OMPS-NP-SIRR-CC-LUT 	<ul style="list-style-type: none"> •NP_NU-LM0240-130 •NP_NU-LM0240-115 	Anc and Aux Data	OMPS NP RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrOmpsNpEarth

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	<ul style="list-style-type: none"> •OMPS_NP_MACROT_ABLE_GND_PI •OMPS_NP_OSOL_LUT •OMPS_NP_DARKS_GND_PI •OMPS_NP_EV_SAMPLE_GND_PI •OMPS_NP_SDR_CC_Intent •OMPS_NP_PSOL_LUT •OMPS_NP_BIAS_GND_PI •OMPS_NP_TIMING_PATTERNS_GND_PI •OMPS_NP_SRF_LUT •OMPS_NP_WAVELENGTH_GND_PI •OMPS_NP_SAA_DARKS_GND_PI •OMPS_NP_LINEARITY_GND_PI •OMPS_NP_FAM_LUT •OMPS_NP_CALCONST_LUT •OMPS_NP_SRPM_LUT •OMPS_NP_CF_EARTH_GND_PI •OMPS_NP_STRAYLIGHT_LUT 	<ul style="list-style-type: none"> •OMPS-NP-MACROTABLE-GND-PI •OMPS-NP-OSOL-LUT •OMPS-NP-DARKS-GND-PI •OMPS-NP-EV-SAMPLE-GND-PI •OMPS-NP-SDR-CC •OMPS-NP-PSOL-LUT •OMPS-NP-BIAS-GND-PI •OMPS-NP-TIMING-PATTERN-GND-PI •OMPS-NP-SRF-LUT •OMPS-NP-WAVELENGTH-GND-PI •OMPS-NP-SAA-DARKS-GND-PI •OMPS-NP-LINEARITY-GND-PI •OMPS-NP-FAM-LUT •OMPS-NP-CALCONST-LUT •OMPS-NP-SRPM-LUT •OMPS-NP-CF-EARTH-GND-PI •OMPS-NP-STRAYLIGHT-LUT 	<ul style="list-style-type: none"> •NP_NU-LM0240-122 •NP_NU-LM0240-110 •NP_NU-LM0240-134 •NP_NU-LM0240-121 •DP_NU-LM2020-001 •NP_NU-LM0240-111 •NP_NU-LM0240-136 •NP_NU-LM0240-119 •NP_NU-LM0240-113 •NP_NU-LM0240-125 •NP_NU-LM0240-135 •NP_NU-LM0240-120 •NP_NU-LM0240-109 •NP_NU-LM0240-108 •NP_NU-LM0240-118 •NP_NU-LM0240-127 •NP_NU-LM0240-129 				
8	•GIP_QST_TILE	•GridIP-VIIRS-Qst-Quarterly-Tile	IMPI_QSIP_R0010	Anc and Aux Data	OMPS NP RDR/SDR	Static Ancillary Data	ProGipOmpsNpGridToGranS

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
							unGlint
9	<ul style="list-style-type: none"> •OMPS_NP_DARKS_AP •OMPS_NP_BIAS_AP •OMPS_NP_CF_SOLA_R_AP •OMPS_NP_WAVELENGTH_GND_PI •OMPS_NP_FLUX_AP •OMPS_NP_RAW_FLUX_AP •OMPS_NP_WAVEMON_AP 	<ul style="list-style-type: none"> •OMPS-NP-DARKS-AP •OMPS-NP-BIAS-AP •OMPS-NP-CF-SOLAR-AP •OMPS-NP-WAVELENGTH-GND-PI •OMPS-NP-FLUX-AP •OMPS-NP-Raw-FLUX-AP •OMPS-NP-WAVEMON-AP 	<ul style="list-style-type: none"> •NP_NU-LM0240-100 •NP_NU-LM0240-102 •NP_NU-LM0240-105 •NP_NU-LM0240-125 •NP_NU-LM0240-106 •NP_NU-LM0240-107 •NP_NU-LM0240-104 	Anc and Aux Data	OMPS NP RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrOmpsNpCal
10	•Common Geo Outputs	•None	•None	Geolocation and S/C	OMPS NP RDR/SDR	ProSdrCmnGeo	ProSdrOmpsNpCal
11	•Common Geo Outputs	•None	•None	Geolocation and S/C	OMPS NP RDR/SDR	ProSdrCmnGeo	ProSdrOmpsNpEarth
12	•OMPS_NP_RGEO	•OMPS-NP-RGEO	•None	OMPS NP RDR/SDR	OMPS NP RDR/SDR	ProSdrOmpsNpEarth	ProGipOmpsNpGridToGranMapping
13	<ul style="list-style-type: none"> •OMPS_NP_RGEO •OMPS_NP_GLINTLESS_S_SDR 	<ul style="list-style-type: none"> •OMPS-NP-RGEO •OMPS-NP-Glintless-SDR 	<ul style="list-style-type: none"> •None •None 	OMPS NP RDR/SDR	OMPS NP RDR/SDR	ProSdrOmpsNpEarth	ProGipOmpsNpGridToGranSunGlint
14	•OMPS_NP_Mapping_Gran	•OMPS-NP-Grid-To-Gran-GridIP-Mapping-IP	•None	OMPS NP RDR/SDR	OMPS NP RDR/SDR	ProGipOmpsNpGridToGranMapping	ProGipOmpsNpGridToGranSunGlint
15	•OMPS_NP_SDR	•OMPS-NP-SDR	•SDRE-OMPS-C0030	OMPS NP RDR/SDR	Store/Retrieve	ProGipOmpsNpGridToGranSunGlint	Store Products to DMS
16	<ul style="list-style-type: none"> •OMPS Dwell RDR •OMPS Telemetry RDR •OMPS Nadir Profile Calibration RDR 	<ul style="list-style-type: none"> •OMPS-DWELL-RDR •OMPS-TELEMETRY-RDR •OMPS- 	<ul style="list-style-type: none"> •RDRE-OMPS-C0036 •RDRE-OMPS-C0034 	OMPS NP RDR/SDR	Store/Retrieve	Passthrough OMPS NP RDRs	Store Products to DMS

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	<ul style="list-style-type: none"> •OMPS Nadir Profile Diagnostic Calibration RDR •OMPS Flight Software Bootup Status RDR •OMPS Memory Dump RDR •OMPS NP Science RDR •OMPS Nadir Profile Diagnostic Earth View RDR 	<ul style="list-style-type: none"> NPCALIBRATION-RDR •OMPS-NPDIAGCAL-RDR •OMPS-FSWBU-RDR •OMPS-DUMP-RDR •OMPS-NPSCIENCE-RDR •OMPS-NPDIAGNOSTIC-RDR 	<ul style="list-style-type: none"> •RDRE-OMPS-C0037 •RDRE-OMPS-C0053 •RDRE-OMPS-C0057 •RDRE-OMPS-C0035 •RDRE-OMPS-C0030 •RDRE-OMPS-C0052 				
17	•OMPS_NP_GEO	•OMPS-NP-GEO	•None	OMPS NP RDR/SDR	Store/Retrieve	ProSdrOmpsNp Earth	Store Products to DMS
18	<ul style="list-style-type: none"> •OMPS_NP_RMON_AUX •OMPS_NP_LAMP_AUX •OMPS_NP_SAA_DARKS_AP •OMPS_NP_DARKS_AP •OMPS_NP_LINEARITY_AUX •OMPS_NP_WAVELENGTH_AUX •OMPS_NP_FLAT_HISTORY_AP •OMPS_NP_FLAT_PROPOSED_UPL_AUX •OMPS_NP_BIAS_AP •OMPS_NP_CF_SOLAR_AP •OMPS_NP_BADPIXEL_AUX •OMPS_NP_FLUX_AP 	<ul style="list-style-type: none"> •OMPS-NP-RMON-AUX •OMPS-NP-LAMP-AUX •OMPS-NP-SAA-DARKS-AP •OMPS-NP-DARKS-AP •OMPS-NP-LINEARITY-AUX •OMPS-NP-WAVELENGTH-AUX •OMPS-NP-FLAT-HISTORY-AP •OMPS-NP-FLAT-PROPOSED-UPL-AUX •OMPS-NP-BIAS-AP •OMPS-NP-CF-SOLAR-AP •OMPS-NP-BADPIXEL-AUX •OMPS-NP-FLUX-AP 	<ul style="list-style-type: none"> •DP_NU-L00020-020 •NP_NU-LM0260-000 •NP_NU-LM0240-101 •NP_NU-LM0240-100 •NP_NU-LM0260-003 •NP_NU-LM0260-001 •NP_NU-LM0240-103 •NP_NU-LM0260-005 •NP_NU-LM0240-102 •NP_NU-LM0240-105 •NP_NU-LM0260-007 	OMPS NP RDR/SDR	Store/Retrieve	ProSdrOmpsNp Cal	Store Products to DMS

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	<ul style="list-style-type: none"> •OMPS_NP_CF_EARTH_AUX •OMPS_NP_RAW_FLUX_AP •OMPS_NP_WAVEMON_AP •OMPS_NP_LIN_PROP_OSED_UPL_AUX 	<ul style="list-style-type: none"> EARTH- AUX •OMPS-NP-RAW-FLUX-AP •OMPS-NP-WAVEMON-AP •OMPS-NP-LIN-PROPOSED-UPL- AUX 	<ul style="list-style-type: none"> •NP_NU-LM0240-106 •NP_NU-LM0260-002 •NP_NU-LM0240-107 •NP_NU-LM0240-104 •NP_NU-LM0260-004 				
19	•OMPS_NP_Mapping_Gran	•OMPS-NP-Grid-To-Gran-GridIP- Mapping-IP	•None	OMPS NP RDR/SDR	Store/Retrieve	ProGipOmpsNpGridToGranMapping	Store Products to Heap
20	<ul style="list-style-type: none"> •OMPS_NP_RGEO •OMPS_NP_GLINTLESS_S_SDR 	<ul style="list-style-type: none"> •OMPS-NP-RGEO •OMPS-NP-Glintless-SDR 	•None	OMPS NP RDR/SDR	Store/Retrieve	ProSdrOmpsNpEarth	Store Products to Heap
21	<ul style="list-style-type: none"> •OMPS_NP_CAL_GEO •OMPS_NP_CAL_SDR 	<ul style="list-style-type: none"> •OMPS-NP-Cal-GEO •OMPS-NP-Cal-SDR 	<ul style="list-style-type: none"> •None •SDRE-OMPS-C0031 	OMPS NP RDR/SDR	Store/Retrieve	ProSdrOmpsNpCal	Store Products to DMS

3.3.2 Outputs

SRS.01.05_59 The OMPS RDR software shall generate the OMPS Nadir Profile Diagnostic Calibration RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_RDR><DiagCal>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_60 The OMPS RDR software shall generate the OMPS Nadir Profile Diagnostic Earth View RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_RDR><DiagEarthView>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_61 The OMPS RDR software shall generate the OMPS Nadir Profile Science RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_RDR><Science>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_62 The OMPS RDR software shall generate the OMPS Nadir Profile Calibration RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_RDR><Cal>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_63 The OMPS RDR software shall generate the OMPS Diagnostic Flight Software Bootup Status RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><FSWBUSTat>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIIDs. APIIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_64 The OMPS RDR software shall generate the OMPS Memory Dump RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><MemDump>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIIDs. APIIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_65 The OMPS RDR software shall generate the OMPS Telemetry RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><Telemetry>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIIDs. APIIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_66 The OMPS RDR software shall generate the OMPS Dwell Telemetry RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><DwellTelem>.

Rationale: The RDR is one of OMPS NP RDR products and is generated from the specified mission data packet APIIDs. APIIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_72 The OMPS Nadir Profile SDR software shall generate the OMPS NP Science SDR, conforming to the XML format file in Attachment A.1 of the JPSS

Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_94 The OMPS Nadir Profile Calibration SDR software shall generate the OMPS NP Science Calibration SDR, conforming with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_112 The OMPS Nadir Profile SDR software shall generate the OMPS Nadir Profile Calibration SDR geolocation in conformance with the XML format file in Attachment A.3 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_113 The OMPS Nadir Profile SDR software shall generate the OMPS Nadir Profile Science SDR geolocation in conformance with the XML format file in Attachment A.4 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.4 Science Standards

Not applicable.

3.5 Metadata Output

Not applicable.

3.6 Quality Flag Content Requirements

SRS.01.05_89 The OMPS Nadir Profile SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Science_SDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_111 The OMPS Nadir Profile Calibration SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Cal_SDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_326 The OMPS Nadir Profile SDR GEO software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the SRSPF <NP_Sci_GEO><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_327 The OMPS Nadir Profile Calibration SDR GEO software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the SRSPF <NP_Cal_GEO><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.7 Data Quality Notification Requirements

SRS.01.05_104 The OMPS Nadir Profile Calibration SDR software shall send notifications to the operator according to logic defined in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Cal_SDR><Notification>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.8 Adaptation

Not applicable.

3.9 Provenance Requirements

Not applicable.

3.10 Computer Software Requirements

Not applicable.

3.11 Software Quality Characteristics

Not applicable.

3.12 Design and Implementation Constraints

SRS.01.05_334 The JPSS Common Ground System shall execute the OMPS NP calibration data computing algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_335 The JPSS Common Ground System shall execute the OMPS NP earth-view radiance computing algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_336 The JPSS Common Ground System shall execute the OMPS NP auxiliary science and calibration parameter algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.05_337 The JPSS Common Ground System shall execute the OMPS NP geolocation algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.13 Personnel Related Requirements

Not applicable.

3.14 Training Requirements

Not applicable.

3.15 Logistics Related requirements

Not applicable.

3.16 Other Requirements

Not applicable.

3.17 Packaging Requirements

Not applicable.

3.18 Precedence and Criticality

Not applicable.

Appendix A. Requirements Attributes

The Requirements Attributes Table lists each requirement with CM-controlled attributes including requirement type, mission effectiveness, requirement allocation(s), block start and end, method(s) for verifying each requirement, etc.

Req ID	Requirement Text	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM
SRS.01.05_321	The OMPS Nadir Profile algorithm shall calculate the earth view radiance holding the out-of-band stray light to less than 1%.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA
SRS.01.05_322	The OMPS Nadir Profile algorithm shall calculate the earth view radiance over the wavelength range of 252 to 306 nm.	P	SDR	S-NPP	algorithm provider	2.0.0	3.0.0	Test	NA
SRS.01.05_323	The OMPS Nadir Profile algorithm shall calculate the earth view radiance with a horizontal cell size of 250 km at nadir.	P	SDR	S-NPP	algorithm provider	2.0.0	3.0.0	Test	NA
SRS.01.05_328	The OMPS Nadir Profile algorithm shall calculate the earth view radiance with an albedo calibration accuracy of 2%.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA
SRS.01.05_329	The OMPS Nadir Profile algorithm shall calculate the earth view radiance with pixel-to-pixel calibration accuracy of 1% maximum.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA
SRS.01.05_469	The OMPS Nadir Profile algorithm shall calculate the earth view radiance over the wavelength range of 250 to 310 nm.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA
SRS.01.05_470	The OMPS Nadir Profile algorithm shall calculate the earth view radiance with a horizontal cell size of 50 km at nadir.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA

Req ID	Requirement Text	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM
SRS.01.05_471	The OMPS Nadir Profile SDR Geolocation algorithm computation shall have a one-sigma mapping uncertainty of no more than 25 km.	P	GEO	S-NPP JPSS-1	algorithm provider	2.0.0	3.0.0	Test	NA
SRS.01.05_92	The OMPS Nadir Profile Calibration SDR software shall incorporate a computing algorithm provided for NP Science calibration data.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA
SRS.01.05_324	The OMPS Nadir Profile SDR software shall incorporate a computing algorithm provided for earth-view radiances.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA
SRS.01.05_325	The OMPS Nadir Profile SDR software shall incorporate a computing algorithm provided for auxiliary science and calibration parameters reported in the SDR.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA
SRS.01.05_80	The OMPS Nadir Profile SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Science_SDR><fill>.	E	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_74	The OMPS Nadir Profile SDR software shall incorporate inputs specified in Table 3-1.	I	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_95	The OMPS Nadir Profile Calibration SDR software shall incorporate inputs specified in Table 3-1.	I	SDR	S-NPP JPSS-1 JPSS-2	GRAVITE	2.0.0	3.0.0	Inspection	NA
SRS.01.05_114	The OMPS Nadir Profile SDR GEO	I	GEO	S-NPP	CGS	2.0.0	3.0.0	Inspection	NA

Req ID	Requirement Text	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM
	software shall incorporate inputs specified in Table 3-1.			JPSS-1 JPSS-2					
SRS.01.05_472	The OMPS Nadir Profile SDR software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).	Ft	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_59	The OMPS RDR software shall generate the OMPS Nadir Profile Diagnostic Calibration RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_RDR><DiagCal>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_60	The OMPS RDR software shall generate the OMPS Nadir Profile Diagnostic Earth View RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_RDR><DiagEarthView>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_61	The OMPS RDR software shall generate the OMPS Nadir Profile Science RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05)	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA

Req ID	Requirement Text	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM
	<NP_RDR><Science>.								
SRS.01.05_62	The OMPS RDR software shall generate the OMPS Nadir Profile Calibration RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_RDR><Cal>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_63	The OMPS RDR software shall generate the OMPS Diagnostic Flight Software Bootup Status RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><FSWBUSStat>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_64	The OMPS RDR software shall generate the OMPS Memory Dump RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><MemDump>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_65	The OMPS RDR software shall generate the OMPS Telemetry RDR from mission data packet APIIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><Telemetry>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_66	The OMPS RDR software shall	F	RDR	S-NPP	CGS	2.0.0	3.0.0	Inspection	NA

Req ID	Requirement Text	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM
	generate the OMPS Dwell Telemetry RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <General_RDR><DwellTelem>.			JPSS-1 JPSS-2					
SRS.01.05_72	The OMPS Nadir Profile SDR software shall generate the OMPS NP Science SDR, conforming to the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).	F	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_94	The OMPS Nadir Profile Calibration SDR software shall generate the OMPS NP Science Calibration SDR, conforming with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).	F	SDR	S-NPP JPSS-1 JPSS-2	GRAVITE	2.0.0	3.0.0	Demonstration	NA
SRS.01.05_112	The OMPS Nadir Profile SDR software shall generate the OMPS Nadir Profile Calibration SDR geolocation in conformance with the XML format file in Attachment A.3 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).	Fg	GEO	S-NPP JPSS-1 JPSS-2	GRAVITE	2.0.0	3.0.0	Demonstration	NA
SRS.01.05_113	The OMPS Nadir Profile SDR software shall generate the OMPS Nadir Profile Science SDR	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA

Req ID	Requirement Text	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM
	geolocation in conformance with the XML format file in Attachment A.4 of the JPSS Algorithm Specification Vol II: Data Dictionary for OMPS NP RDR/SDR (474-00448-02-05).								
SRS.01.05_89	The OMPS Nadir Profile SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Science_SDR><QF>.	Q	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_111	The OMPS Nadir Profile Calibration SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Cal_SDR><QF>.	Q	SDR	S-NPP JPSS-1 JPSS-2	GRAVITE	2.0.0	3.0.0	Analysis	NA
SRS.01.05_326	The OMPS Nadir Profile SDR GEO software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the SRSPF <NP_Sci_GEO><QF>.	Q	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_327	The OMPS Nadir Profile Calibration SDR GEO software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the SRSPF <NP_Cal_GEO><QF>.	Q	GEO	S-NPP JPSS-1 JPSS-2	GRAVITE	2.0.0	3.0.0	Analysis	NA
SRS.01.05_104	The OMPS Nadir Profile Calibration	N	SDR	S-NPP	GRAVITE	2.0.0	3.0.0	Test	NA

Req ID	Requirement Text	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM
	SDR software shall send notifications to the operator according to logic defined in the JPSS Algorithm Specification Vol IV: SRSPF for OMPS NP RDR/SDR (474-00448-04-05) <NP_Cal_SDR><Notification>.			JPSS-1 JPSS-2					
SRS.01.05_334	The JPSS Common Ground System shall execute the OMPS NP calibration data computing algorithm.	Ai	SDR	S-NPP JPSS-1 JPSS-2	GRAVITE	2.0.0	3.0.0	Test	NA
SRS.01.05_335	The JPSS Common Ground System shall execute the OMPS NP earth-view radiance computing algorithm.	Ai	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_336	The JPSS Common Ground System shall execute the OMPS NP auxiliary science and calibration parameter algorithm.	Ai	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA
SRS.01.05_337	The JPSS Common Ground System shall execute the OMPS NP geolocation algorithm.	Ai	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA